

Application No. 10/606,525
SD-7139.1

AMENDMENTS TO THE CLAIMS

1-5. (CANCELLED)

6. (CURRENTLY AMENDED) A microelectronic device, comprising:

- an electrically insulating substrate;
 - a first electrical conductor disposed on the substrate;
 - a microelectronic device attached to the substrate, wherein the device comprises an active area and a passive area;
 - a second electrical conductor disposed on the device, located within the passive area;
 - an electrical interconnection ~~made~~ formed between the first and second electrical conductors; and
 - an electrically insulating, protective coating covering the first and second electrical conductors, the electrical interconnection, and the passive area [[: but not]]
--; but not-- covering the active area [[:]] -- ; --
- wherein the thickness of the protective coating is less than or equal to
100 microns.

7. (Original) The microelectronic device of claim 6, wherein the substrate comprises one or more electrically insulating materials selected from the group consisting of ceramic, plastic, printed wiring board material, polymer, multi-layered material, LTCC ceramic multilayered material, and HTCC ceramic multilayered material.

8. (CURRENTLY AMENDED) The microelectronic device of claim 6, wherein the substrate comprises a package having a geometry selected from the group consisting of DIP, ~~Ceramic DIP, CERDIP,~~ ceramic dual inline packaging (or, CERDIP), quad flatpack, pin grid array, leadless chip carrier, and a leaded flatpack.

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9. (CURRENTLY AMENDED) The microelectronic device of claim 6, further comprising one or more active elements, disposed within the active area, selected from the group consisting of MEMS elements, optically sensitive elements, temperature sensitive elements, heat sensitive elements, chemical sensitive elements, pressure sensitive elements, and microsensors.

10. (CURRENTLY AMENDED) The microelectronic device of claim 6, further comprising one or more released MEMS elements disposed within the active area.

11. (CURRENTLY AMENDED) The microelectronic device of claim 6, further comprising one or more unreleased MEMS elements disposed within the active area[.]

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wherein the device of claim 11 is an intermediate structure that represents an intermediate stage in a process for fabricating a working MEMS device; and wherein said intermediate structure can be made functional by releasing the MEMS elements, while not removing the protective coating from the first and second electrical conductors, the electrical interconnection, and the passive area.

12. (Original) The microelectronic device of claim 6, wherein the electrical interconnection comprises a wirebond or a flip-chip ball or bump.

13. (Withdrawn) The microelectronic device of claim 6, wherein the device is flip-chip mounted to the substrate, and wherein the substrate comprises an aperture aligned over the active area, whereby the active area is accessible through the aperture.

14. (Withdrawn) The microelectronic device of claim 6, wherein the package comprises a transparent window disposed across the aperture.

15. (Original) The microelectronic device of claim 6, wherein the electrically insulating protective coating comprises one or more materials selected from the group consisting

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of a vapor-deposited coating, a vacuum vapor deposited coating, a chemical vapor deposited coating, a water-insoluble coating, a water-soluble coating, a dry-etchable coating, a conformal coating, a pin-hole free coating, parylene, a photopatternable/photoimagable material, photoresist, a low viscosity photoresist, an epoxy based negative resist, SU-8, SU-8 2000, a sputtered coating, an evaporated coating, a ceramic coating, silicon nitride, aluminum oxide, mullite, a sprayed coating, a self-assembled monolayered material, cyanoacrylate, perfluoropolyether, hexamethyldisilazane, perfluorodecanoic carboxylic acid, silicon dioxide, TEOS, silicate glass, a fast-etch glass, silicon, and polysilicon.

16. (Original) The microelectronic device of claim 6, wherein the electrically insulating protective coating comprises one or more materials selected from the group consisting of poly-para-xylylene, poly-para-xylylene that has been modified by the substitution of a chlorine atom for one of the aromatic hydrogens, and poly-para-xylylene that has been modified by the substitution of the chlorine atom for two of the aromatic hydrogens.

17. (Withdrawn) The microelectronic device of claim 6, wherein the passive area comprises an integrated circuit.

18. (Withdrawn) The microelectronic device of claim 6, further comprising an electrically conductive overcoat deposited on top of the electrically insulating protective coating, whereby the electrically conductive overcoat provides electromagnetic shielding.

19. (Withdrawn) The microelectronic device of claim 18, wherein the electrically conductive overcoat comprises one or more conductive materials selected from the group consisting of a metal, gold, tungsten, nickel, aluminum, copper, titanium, molybdenum, tin, tantalum, a metal alloy, an electrically-conductive polymer, carbon, doped carbon, and doped silicon.

20. (Withdrawn) The microelectronic device of claim 6, wherein the conductive overcoat is continuous across two or more adjacent electrical interconnections.

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21. (CANCELLED)

22. (Withdrawn) The microelectronic device of claim 6, wherein the substrate comprises an interposer or an interposer with an aperture aligned with the active area.

23-47. (CANCELLED)

48. (NEW) The microelectronic device of claim 6, wherein the thickness of the protective coating is less than or equal to 100 angstroms.